

CHAPTER -1

INTRODUCTION, DEFINITION, CONCEPT, IMPORTANCE, ADVANTAGES AND DISADVANTAGES, OBJECTIVES, ESSENTIAL CHARACTERISTICS OF ORGANIC FARMING

1.1 Introduction:

Green revolution technologies such as greater use of synthetic agro chemicals like fertilizers and pesticides, adoption of nutrient responsive, high-yielding varieties of crops, greater exploitation of irrigation potentials etc... has boosted the production out put in most of cases. Without proper choice and continues use of these high energy inputs is leading to decline in production and productivity of various crops as well as deterioration of soil health and environments. The most unfortunate impact on Green Revaluation Technology (GRT) on Indian Agriculture is as follows:

1. Change in soil reaction
2. Development of nutrient imbalance /deficiencies
3. Damage the soil flora and fauna
4. Reduce the earth worm activity
5. Reduction in soil humus / organic matter
6. Change in atmospheric composition
7. Reduction in productivity
8. Reduction in quality of the produce
9. Destruction of soil structure, aeration and water holding capacity
10. Breeding more powerful and resistant pests and diseases

All these problems of GRT lead to not only reduction in productivity but also deterioration of soil health as well as natural eco-system. Moreover, to day the rural economy is now facing a challenge of over dependence on synthetic inputs and day by day it change in price of these inputs. Further, Indian Agriculture will face the market competition due to globalization of trade as per World Trade Organization (WTO). Thus apart from quantity, quality will be the important factor. Agriculture gave birth to various new concepts of farming such as organic farming, natural farming, bio-dynamic Agriculture, do-nothing agriculture, eco-farming etc.

The essential concept of these practices is "Give back to nature", where the philosophy is to feed the soil rather them the crop to maintain the soil health. Therefore, for sustaining healthy ecosystem, there is need for adoption of an alternatives farming system like organic farming.

1.2 Definition of organic farming

Many scientists at different levels have elaborated the concept of organic farming; the important descriptions are as follows;

Lampkin (1990) Organic farming is a production system which avoids or largely excludes the use of synthetic compounded fertilizers, pesticides, growth regulators and live stock feed additives.

Koferi (1992) (Korean organic farming environment Research Institute) It is the farming method by which we never use compound chemical fertilizers, agricultural chemicals, pesticides, growth hormones and uses natural sources such as organic matters, minerals, and microbes.

According to national organic standards board of the U.S. defines organic farming as an ecological production management system that promotes and enhances bio diversity, biological cycles and soil biological activity.

Organic farming refers to organically grown crops which are not exposed to any chemicals right from the stage of seed treatments to the final post harvest handling and processing (Pathak & Ram, 2003).

Organic farming relies on crop rotation, crop residues, animal manures, legumes, green manures, off-farming organic wastes, agricultural cultivation, mineral bearing rocks and aspect of biological pest control to maintain soil productivity and tilth to supply plant nutrients and also to control insects, weeds and other pests (Lamkin-1990). In a broader sense it includes biofertilizers, bio diversity and biotechnology.

1.3 Concept of organic farming

The basic concepts behind organic farming are:

1. It concentrates on building up the biological fertility of the soil so that the crops take the nutrients they need from steady turnover within the soil nutrients produced in this way and are released in harmony with the need of the plants.
2. Control of pests, diseases and weeds is achieved largely by the development of an ecological balance within the system and by the use of bio-pesticides and various cultural techniques such as crop rotation, mixed cropping and cultivation.
3. Organic farmers recycle all wastes and manures within a farm, but the export of the products from the farm results in a steady drain of nutrients.
4. Enhancement of the environment in such a way that wild life flourishes.

In a situation where conservation of energy and resources is considered to be important community or country would make every effort to recycles to all urban and industrial wastes back to agriculture and thus the system would be requiring only a small inputs of new resources to "Top Up" soil fertility.

1.4 Importance of Organic Farming

The agriculture today in the country is hampered by erosion of natural resources viz., land, water, biodiversity, fast declining soil fertility and use efficiency of inputs, such as water, fertilizer and energy. Demographic pressure accelerates the former and the faulty agronomic practices account for the latter problems. The modern agriculture with its